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89. (New) The apparatus of claim 88, wherein said grid generator has a first free spectral range and said channel selector has a second free spectral range, said second free spectral range different from said first free spectral range.

- 90. (New) The apparatus of claim 89, further comprising a gain medium positioned to emit an optical beam along said optical path and receive optical feedback from said grid generator and said channel selector, said grid generator and said channel selector operable to select wavelength of said optical feedback to said gain medium.
- 91. (New) The apparatus of claim 90, wherein at least one of said grid generator and said channel selector is configured to operate in transmission.
- 92. (New)The apparatus of claim 90, wherein at least one of said grid generator and said channel selector is configured to operate in reflection.
  - 93. (New) An external cavity laser apparatus, comprising:
  - (a) a gain medium emitting an optical beam along an optical path;
  - (b) a grid generator positioned in said optical path and configured to generate a first plurality of transmission peaks corresponding to channels within a selected wavelength range; and
  - (c) a channel selector positioned in said optical path and configured to generate a second plurality of transmission peaks within said wavelength range;
  - (d) said gain medium positioned to receive optical feedback from said grid generator and said channel selector, said grid generator and said channel selector operable to select wavelength of said optical feedback to said gain medium.
- 94. (New) The apparatus of claim 93, wherein said grid generator has a first free spectral range, and said channel selector has a second free spectral range, said second free spectral range different from said first free spectral range.
- 95. (New) The apparatus of claim 94 where said second free spectral range is tunable with respect to said first free spectral range such that said grid generator and said channel selector are operable to select wavelength of said optical feedback by Vernier tuning.





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- 96. (New) An external cavity laser apparatus, comprising:
- (a) a gain medium emitting an optical beam along an optical path;
- (b) a grid generator having a first free spectral range, said grid generator positioned in said optical path and configured to generate a first plurality of transmission peaks corresponding to-channels within a selected wavelength range;
- (c) a channel selector having a second free spectral range, said channel selector positioned in said optical path and configured to generate a second plurality of transmission peaks within said wavelength range; and
- (d) said gain medium positioned to receive optical feedback from said grid generator and said channel selector, said grid generator and said channel selector operable to select wavelength of said optical feedback to said gain medium according to tuning of said second free spectral range with respect to said first free spectral range.
- 97. (New) A method for tuning an optical beam, comprising:
- (a) generating a first plurality of transmission peaks corresponding to channels within a selected wavelength range;
- (b) generating a second plurality of transmission peaks within said selected wavelength range; and
- (c) selecting said second plurality of transmission peaks with respect to said first plurality of transmission peaks to tune said optical beam.
- 98. (New) The method of claim 97, wherein:
- (a) said generating said first plurality of transmission peaks comprises positioning a grid generator ins said optical beam, said grid generator having a first free spectral range; and
- (b) said generating said second plurality of transmission peaks comprises positioning a channel selector in said optical beam, said channel selector having a second free spectral range.
- 99. (New) The method of claim 98 wherein said tuning said second plurality of transmission peaks with respect to said first plurality of transmission peaks comprises adjusting said second free spectral range with respect to said first free spectral range.

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100. (New) A method for laser operation, comprising:

- (a) emitting an optical beam by a gain medium;
- (b) positioning a grid generator in said optical beam;
- (c) generating a first plurality of transmission peaks by said grid generator, said first plurality of transmission peaks corresponding to channels within a selected wavelength range;
- (d) positioning a channel selector in said optical beam;
- (e) generating a second plurality of transmission peaks within said selected wavelength range by said channel selector;
- (f) returning optical feedback from said grid generator and said channel selector to said gain medium; and
- (g) selecting said second plurality of transmission peaks with respect to said first plurality of transmission peaks to select wavelength of said optical feedback.
- 101. (New) A tunable filter apparatus for an optical beam, comprising:
- (a) grid means for generating a first plurality of transmission peaks corresponding to channels in a selected wavelength range, said grid means positioned in said optical beam; and
- (b) channel selector means for generating a second plurality of transmission peaks, said channel selector means positioned in said optical path.

## II. REMARKS

## 1. Objections to the Specification

The Examiner indicated that there is a lack of agreement between Equation 1B on Page 16, line 4 and the statement "FSR<sub>ChanSel</sub> differs from the FSR<sub>GridGen</sub> by an amount substantially corresponding to 1/M \* FSR<sub>GridGen</sub>." on page 16 lines 7-8.

Equation 1B is a relationship that provides for expressing the free spectral range of the channel selector (FSR<sub>ChanSel</sub>) in terms of the free spectral range of the grid generator (FSR<sub>GridGen</sub>). The

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